

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	3189	(person\$3 same web\$3 same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 17:13
S2	2368	S1 and @ad<"20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 17:13
S3	235	S2 and (matri\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 18:26
S4	74	S3 and (rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 17:15
S5	5	S4 and (matri\$3 same approximat\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 18:31
S6	907	(rank\$4 with (web near (sit\$2 or pag\$3)))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 18:36
S7	609	S6 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 19:16
S8	23	S7 and (matri\$3 same rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 18:43
S9	14	S8 and (personal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 18:48

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S10	16	S8 and (personal\$8 or custom\$7)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 18:53
S11	5	S8 and ((personal\$8 or custom\$7) same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 19:14
S12	1860	((((personal\$8 or custom\$7) same pageRank\$3 or rank\$3) same search\$3) and matri\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 19:16
S13	1347	S12 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 19:18
S14	1309	S13 and (database or stor\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 19:19
S15	38	S14 and (rank\$3 with matri\$4) and (web near pag\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 19:23
S16	44	S14 and (rank\$3 with matri\$4) and (web near (pag\$3 or sit\$2))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/13 19:25
S17	3189	(person\$3 same web\$3 same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S18	2368	S17 and @ad<"20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S19	235	S18 and (matri\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23

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S20	74	S19 and (rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S21	5	S20 and (matri\$3 same approximat\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S22	907	(rank\$4 with (web near (sit\$2 or pag\$3)))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S23	609	S22 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S24	23	S23 and (matri\$3 same rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S25	14	S24 and (personal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S26	16	S24 and (personal\$8 or custom\$7)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S27	5	S24 and ((personal\$8 or custom\$7) same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S28	1860	((((personal\$8 or custom\$7) same pageRank\$3 or rank\$3) same search\$3) and matri\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S29	1347	S28 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23

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S30	1309	S29 and (database or stor\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S31	38	S30 and (rank\$3 with matri\$4) and (web near pag\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S32	44	S30 and (rank\$3 with matri\$4) and (web near (pag\$3 or sit\$2))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 10:23
S33	3189	(person\$3 same web\$3 same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S34	2368	S33 and @ad<"20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S35	235	S34 and (matri\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S36	74	S35 and (rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S37	5	S36 and (matri\$3 same approximat\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S38	907	(rank\$4 with (web near (sit\$2 or pag\$3)))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S39	609	S38 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02

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S40	23	S39 and (matri\$3 same rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S41	14	S40 and (personal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S42	16	S40 and (personal\$8 or custom\$7)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S43	5	S40 and ((personal\$8 or custom\$7) same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S44	1860	((((personal\$8 or custom\$7) same pageRank\$3 or rank\$3) same search\$3) and matri\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S45	1347	S44 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S46	1309	S45 and (database or stor\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:06
S47	38	S46 and (rank\$3 with matri\$4) and (web near pag\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S48	44	S46 and (rank\$3 with matri\$4) and (web near (pag\$3 or sit\$2))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S49	3189	(person\$3 same web\$3 same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02

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S50	2368	S49 and @ad<"20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S51	235	S50 and (matri\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S52	907	(rank\$4 with (web near (sit\$2 or pag\$3)))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S53	609	S52 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S54	1860	((personal\$8 or custom\$7) same pageRank\$3 or rank\$3) same search\$3) and matri\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S55	1347	S54 and @ad<="20040105"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S56	1309	S55 and (database or stor\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S57	74	S51 and (rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S58	5	S57 and (matri\$3 same approximat\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S59	23	S53 and (matri\$3 same rank\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02

## EAST Search History

S60	14	S59 and (personal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S61	16	S59 and (personal\$8 or custom\$7)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:09
S62	5	S59 and ((personal\$8 or custom\$7)same search\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S63	38	S56 and (rank\$3 with matri\$4) and (web near pag\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S64	44	S56 and (rank\$3 with matri\$4) and (web near (pag\$3 or sit\$2))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:02
S65	25	S46 and (((pag\$3 with rank\$3) or pagerank\$3) same matr\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:08
S66	8	S65 and ((person\$8 or custom\$7) same (rank\$3 or pagerank\$4))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	OFF	2006/07/14 16:10

**Exploiting the block structure of the web for computing pagerank** - group of 13 »

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SD Kamvar, TH Haveliwala, CD Manning, GH Golub - Proc. of the 13th WWW, 2003 - www-db.stanford.edu

... of the web [3] would be useful in computing **Page- Rank**. ... [11] suggest using successive intermediate ... successively better estimates of the true **PageRank** values. ...

Cited by 75 - [View as HTML](#) - [Web Search](#)

**[PS] Updating PageRank using the group inverse and stochastic complementation**

AN Langville, CD Meyer - ncsu.edu

... the Markov chain [4]. A small Markov **matrix** ... The elements  $p_{ij}$  are found by using the rules ... or, if necessary, approximate) the correct, updated **PageRank** ...

Cited by 8 - [View as HTML](#) - [Web Search](#)

**Extrapolation methods for accelerating PageRank computations** - group of 22 »

SD Kamvar, TH Haveliwala, CD Manning, GH Golub - Proceedings of the twelfth international conference on World ..., 2003 - portal.acm.org

... to personalized and topic-sensitive **Page- Rank** schemes [11 ... been possible, as the convergence of **PageRank** slows down ... x. Doing simple algebra using equations 6 ...

Cited by 98 - [Web Search](#)

**Efficient PageRank approximation via graph aggregation** - group of 7 »

AZ Broder, R Lempel, F Maghoul, J Pedersen - Information Retrieval, 2006 - Springer

...  $h(p)$ . 2. Perform a regular **PageRank** step from ... terminology of the previous section, the **matrix**  $S$  that ... graph, which is stored and accessed using AltaVista's ...

Cited by 15 - [Web Search](#)

**An analytical comparison of approaches to personalizing PageRank** - group of 7 »

TH Haveliwala, S Kamvar, G Jeh - Preprint, June, 2003 - www-nlp.stanford.edu

... Haveliwala [2] computes an  $n \times k$  **approximation** to  $Q$  ... The Modular **PageRank** approach proposed by Jeh and Widom [3] computes an  $n \times k$  **matrix** using the  $k$  ...

Cited by 22 - [View as HTML](#) - [Web Search](#)

**The intelligent surfer: Probabilistic combination of link and content information in pagerank** - group of 15 »

M Richardson, P Domingos - Advances in Neural Information Processing Systems, 2002 - cs.northwestern.edu

... of the query term and the document, and QD-**PageRank** reduces to **Page- Rank**. ... by latent semantic indexing, or any heuristic measure using text size ...

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**Efficient computation of pagerank** - group of 18 »

TH Haveliwala - Stanford University, http://dbpubs.stanford.edu, 1999 - net.cs.pku.edu.cn

... will be essential in computing **Page- Rank**, even on ... When computing **PageRank**, we can use either single ... Using double-precision for Source and Dest, however, would ...

Cited by 136 - [View as HTML](#) - [Web Search](#)

**Deeper inside PageRank** - group of 15 »

AN Langville, CD Meyer - Internet Mathematics, 2004 - projecteuclid.org

... Langville and Meyer: Deeper Inside **PageRank** 339 ... One problem with solely using the web's hyperlink structure to build the Markov **matrix** is apparent. ...

Cited by 63 - [Web Search](#)

**Updating pagerank with iterative aggregation** - group of 9 »

AN Langville, CD Meyer - Proceedings of the 13th international World Wide Web ..., 2004 - portal.acm.org

... of the web, our algorithm updates **PageRank** using just 25 ... schemes—the primary example is the **PageRank** mechanism that ... is approximated by the  $(g+1) \times (g+1)$  **matrix** ...

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**Fast computation of low rank matrix approximations**

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### 1 [Fast computation of low rank matrix approximations](#)



Dimitris Achlioptas, Frank McSherry

July 2001 **Proceedings of the thirty-third annual ACM symposium on Theory of computing**

Publisher: ACM Press

Full text available:  pdf(223.29 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Given a matrix  $A$  it is often desirable to find an approximation to  $A$  that has low rank. We introduce a simple technique for accelerating the computation of such approximations when  $A$  has strong spectral structure, i.e., when the singular values of interest are significantly greater than those of a random matrix with size and entries similar to  $A$ . Our technique amounts to independently sampling and/or quantizing the entries ...


### 2 [Fast monte-carlo algorithms for finding low-rank approximations](#)



Alan Frieze, Ravi Kannan, Santosh Vempala

November 2004 **Journal of the ACM (JACM)**, Volume 51 Issue 6

Publisher: ACM Press

Full text available:  pdf(134.13 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We consider the problem of approximating a given  $m \times n$  matrix  $A$  by another matrix of specified rank  $k$ , which is smaller than  $m$  and  $n$ . The Singular Value Decomposition (SVD) can be used to find the "best" such approximation. However, it takes time polynomial in  $m, n$  which is prohibitive for some modern applications. In this article, we develop an algorithm that is qualitatively faster, provided we may sample the entries of the matrix in accor ...

**Keywords:** Matrix algorithms, low-rank approximation, sampling


### 3 [Generalized low rank approximations of matrices](#)



Jieping Ye

July 2004 **Proceedings of the twenty-first international conference on Machine learning ICML '04**

Publisher: ACM Press

Full text available:  pdf(194.76 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

We consider the problem of computing low rank approximations of matrices. The novelty of our approach is that the low rank approximations are on a sequence of matrices. Unlike the problem of low rank approximations of a single matrix, which was well studied in the past, the proposed algorithm in this paper does not admit a closed form solution in general. We did extensive experiments on face image data to evaluate the effectiveness of the proposed algorithm and compare the computed low rank appr ...